REGION V
AIR AND RADIATION DIVISION
ISSUE PAPER

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Issue/Topic

Defects in the Illinois Opacity and Continuous Emissions Monitoring Rules: Director's Discretion Provision

Background/Current Status

United States Environmental Protection Agency (USEPA) approved the Illinois Particulate Plan on May 31, 1972, (37 FR 10862) including an opacity rule.

On September 28, 1978, the Illinois Appellate Court vacated Rule 203(g)(1), a key provision of the particulate State Implementation Plan (SIP) on State law procedural grounds. [Illinois Chemical Company v. PCB, No. 77382 Ill App 3d.] Because of the Court's action, USEPA issued a notice of SIP deficiency on July 12, 1979, (45 FR 40723). A construction moratorium was not imposed at the time, because USEPA believed it could enforce the vacated rules as part of the Federal SIP. Subsequently, the opacity rule, 202(b), was invalidated as it relates to iron and steel sources. See Celotex v. Pollution Control Board, No. 81-10 (Ill. App. 3d Dist., September 29, 1981), and United States Steel Corp. v. PCB, 64 Ill. App. 3d 34, 380 N.E. 2d 909 (1st Dist. 1978).

On August 30, 1983, the U.S. Court of Appeals for the Seventh Circuit (Sierra Club v. Indiana-Kentucky Electric Corporation, 716 F.2d 1145 (7th Cir. 1983)) ruled that a Federal court may not enforce a federally approved implementation plan provision that was, thereafter, invalidated by a court of the adopting State on State law procedural grounds. Based on this ruling, portions of the Illinois particulate rules are no longer enforceable at the Federal level.

In the process of readopting these vacated particulate rules, Illinois reexamined its opacity rule. After several attempts to revise the opacity rule in a form acceptable to USEPA, the State adopted a rule intended to satisfy the Federal requirements and submitted it to USEPA on July 22, 1988.

Continuous Emissions Monitoring (CEM)

Illinois' first attempt at satisfying USEPA's CEM requirement was through adoption and submission of an Illinois Environmental Protection Agency (IEPA) rule. This rule had several defects, and, in addition, IEPA was unable to demonstrate that the Agency had legal authority under State law to adopt a CEM rule. USEPA will finally disapprove the Agency rule within 30 days.

Rather than overcome the deficiencies in the Agency rule, the State chose to have the Illinois Pollution Control Board (IPCB) adopt a CEM rule. This regulatory proposal was jointly introduced by the IEPA, the Illinois Manufacturers Association, and Citizens for a Better Environment (CBE) in response to a law suit in the Northern District of Illinois, CBE et al. v.

Lee M. Thomas, Administrator, USEPA, (No 80 C 003 (N.D. Ill.). This joint regulatory proposal was adopted by the IPCB on December 15, 1988, and submitted to USEPA as a SIP revision on March 20, 1989.

ANALYSIS OF THE RULES PRESENTLY BEFORE USEPA:

Opacity Rule

The Technical Analysis Section reviewed the opacity rule and recommended approval of it. The Air Compliance Branch found the rule unacceptable and recommended disapproval of it. Their objections included the following points.

1. The current opacity rule, which is part of the SIP for non-steel making sources, has been wholly recodified. However, only those portions of the rule which had been revised by Illinois were submitted in the recodified format. Working with a rule with parts in two different regulatory formats was considered unworkable and confusing.

2. It was unclear from the material submitted how Illinois intended to apply the rule in practice.

Continuous Emissions Monitoring Rule

Both the Technical Analysis Section and the Air Compliance Branch rationale documents recommend approval of the State CEM Rule. See Director's Discretion discussion below.

Director's Discretion as a Basis for Disapproval

Section 212.126 (Copy of Text Attached) of the Opacity rule sets forth procedures through which the IPCB may grant adjusted opacity standards consistent with Federal law. State law does not require that the State must submit adjusted opacity standards to USEPA for review and approval as SIP revisions prior to their becoming effective. Similarly, Section 201.402 (Copy of Text Attached) of the CEM rule allows IEPA to prescribe alternative monitoring requirements through an operating permit. Such alternative requirements do not have to be submitted to USEPA for review and approval as SIP revisions prior to becoming effective.

USEPA has repeatedly notified Illinois that allowing this type of discretion without USEPA review and approval was unacceptable. For instance, the June 17, 1988, SIP Call letter concerning Illinois' ozone and CO SIP to the Illinois Air Director required that the Director's discretion provisions be removed from the existing Illinois VOC SIP. During regulatory proceeding R89-16(A), the RACT Deficiencies Fix-ups, David Kee testified that Director's discretion without USEPA review and approval could not be incorporated into the State's rules if the rules were to be approved by USEPA. The IPCB chose to ignore Mr. Kee's testimony and left Director's discretion in its VOC rules.

However, the IPCB chose to follow USEPA's request to remove Director's discretion in a related rulemaking. On March 16, 1989, USEPA filed a Motion to Reconsider the IPCB Opinion and Order in regulatory proceeding R88-30(A), Limits to Volatility of Gasoline. The USEPA Motion for Reconsideration noted a newly emergent cause for concern. Recent case law indicated that State discretionary approvals would modify the State Implementation Plan without Federal comment or rulemaking. [See for example United States of America v. Allsteel Inc. (No. 87 C 4638 ND Illinois, August 30, 1989)]. Based on the USEPA Motion, the IPCB amended the rule to remove the Director's discretion provision through emergency rulemaking.

RECOMMENDED ACTION:

Prepare Federal Register notices proposing to disapprove these requested opacity and CEM SIP revisions, because they allow the State discretion to modify the SIP without Federal review and approval. If such modifications are allowed, USEPA cannot assure that the plan will protect the National Ambient Air Quality Standards.

This disapproval package leaves USEPA liable to promulgate a CEM rule for Illinois because of the litigation settlement with CBE in the Seventh Circuit. However, it is unnecessary to initiate the promulgation process until we finally disapprove Illinois' CEM rule.

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Standard bcc's: official file copy w/attachment(s)
originator copy w/attachment(s)
originating organization reading file copy w/o attachment(s)

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a) The Agency may adopt procedures which:

1) Require additional records be maintained consistent with these regulations; and

2) Set forth the format in which all records shall be maintained.

b) Such procedures and formats, and revisions thereto, shall not become effective until filed with the Secretary of State as required by the APA.

Section 201.302 Reports

a) The owner or operator of any emission source or air pollution control equipment shall submit to the Agency as a minimum, annual reports detailing the nature, specific sources and total annual quantities of all specified air contaminant emissions; provided, however, that the Agency may require more frequent reports where necessary to accomplish the purposes of the Act and this Chapter.

b) The Agency may adopt procedures which require that additional reports be submitted, and which set forth the format in which all reports shall be submitted. Such procedures and formats, and revisions thereto, shall not become effective until filed with the Secretary of State as required by the APA.

c) All emissions data received by the Agency relative to specified air contaminants shall be correlated by the Agency with any emission limitations or standards set forth in Subchapter c of this Chapter.

d) All emission data received by the Agency, shall be available for public inspection at reasonable times and upon reasonable notice.

SUBPART L: CONTINUOUS MONITORING

Section 201.401 Continuous Monitoring Requirements

a) Except as otherwise provided at Section 201.402 and Section 201.403, the owners and operators of the following emission sources shall install, operate, calibrate and maintain continuous monitoring equipment for the indicated pollutants.

1) Fossil fuel-fired steam generators with an annual average capacity factor greater than 30%, as reported to the Federal Power Commission for calendar year 1974, or as otherwise demonstrated to the Agency through the use of annual production data and equipment rating information representative of the facility's operations, shall monitor for:

A) Opacity, when the steam generator is greater than 250 million Btu per hour heat input unless:

i) Gas is the only fuel burned; or

ii) Oil or a mixture of gas and oil are the only fuels burned and the source can comply with the limitations applicable to that source for particulate matter and opacity without use of collection equipment for particulate matter and the source has never been found to be in violation of an applicable visible or particulate emission standard through any administrative or judicial proceedings.

B) Nitrogen Oxides, when:

i) The steam generator is greater than 1000 million Btu per hour heat input;

ii) The facility is located in an Air Quality Control Region where the Administrator, U.S. Environmental Protection Agency, has specifically determined pursuant to Section 107 of the Clean Air Act (42 U.S.C. 7407) that a control strategy for nitrogen dioxide is necessary to attain the national standards; and

iii) The owner or operator has not demonstrated during compliance tests performed pursuant to 35 Ill. Adm. Code 230.Appendix A or in regulations adopted by the U.S. Environmental Protection Agency under Section 111 of the Clean Air Act and made applicable in Illinois pursuant to Section 9.1 of the Illinois Environmental Protection Act that the source emits nitrogen oxides at levels less than 30% or more below the emissions standards applicable to that source.

C) Sulfur dioxide, when the steam generator is greater than 250 million Btu per hour heat input and which has installed and operates sulfur dioxide pollution control equipment.

D) Percent oxygen or carbon dioxide, when measurements of oxygen or carbon dioxide in the flue gas are required pursuant to 35 Ill. Adm. Code 230.Appendix A or in regulations adopted by the U.S. Environmental Protection Agency under Section 111 of the Clean Air Act and made applicable in Illinois pursuant to Section 9.1 of the Illinois

Environmental Protection Act, or 40 CFR 51, Appendix P (this incorporation includes no later amendments or editions.) to convert sulfur dioxide or nitrogen oxide continuous emissions data to units of the applicable emission standard applicable to that source.

2) Sulfuric acid plants of greater than 300 tons per day production capacity, the production being expressed as 100 percent acid, shall monitor for sulfur dioxide at each point of sulfur dioxide emission.

3) Nitric acid plants of greater than 300 tons per day production capacity, the production capacity being expressed as 100 percent acid, located in an Air Quality Control Region where the Administrator, U.S. Environmental Protection Agency, has specifically determined pursuant to Section 107 of the Clean Air Act that a control strategy for nitrogen dioxide is necessary to attain the national standard, shall monitor for nitrogen oxides at each point of nitrogen oxide emission.

4) Petroleum refineries shall monitor for opacity at each catalyst regenerator for fluid bed catalytic cracking units of greater than 20,000 barrels per day fresh feed capacity.

b) Except for sources permitted to use alternative monitoring pursuant to Section 201.402, compliance with the Illinois emissions limitations by the owners and operators of emission sources required to monitor continuously shall be determined by the use of equipment which meets the performance specifications set forth in paragraphs 3.1 through 3.8 of 40 CFR 51, Appendix P (1987) (this incorporation includes no later amendments or editions), and relevant portions of 35 Ill. Adm. Code 230.Appendix A and B.

(Source: Added at 13 Ill. Reg. 2066, effective February 3, 1989)

Section 201.402 Alternative Monitoring

Alternative monitoring requirements for sources subject to Section 201.401(a) shall be prescribed by permit upon a demonstration by the owner or operator that continuous monitoring is technically unreasonable or infeasible due to physical plant limitations or would impose an extreme economic burden. It shall be demonstrated that the installation, location or operation of a continuous monitoring system or device:

a) Would not provide accurate determinations of nitrogen dioxide, sulfur dioxide, carbon dioxide, percent oxygen, or opacity; or

b) Cannot be installed due to the facility's physical constraints such as size, space or strength of materials, or due to safety considerations; or

c) Would impose an extreme economic burden in proportion to the significance of the monitoring information which would be provided, in that the cost of monitoring would exceed the norm for similar sources and those costs would have a significant adverse effect on the profitability of the operations.

(Source: Added at 13 Ill. Reg. 2066, effective February 3, 1989)

Section 201.403 Exempt Sources

The following emission sources are exempt from the requirements of this Subpart:

a) Any source subject to monitoring requirements which are part of a new source performance standard adopted by USEPA pursuant to Section 111 of the Clean Air Act and made applicable in Illinois pursuant to Section 9.1 of the Act; or

b) Any source not subject to either the generally applicable emission limitation established pursuant to the Act or Board regulation or an alternative, adjusted or site specific standard approved by the Board.

(Source: Added at 13 Ill. Reg. 2066, effective February 3, 1989)

Section 201.404 Monitoring System Malfunction

The monitoring and recording requirements of this Subpart shall not be applicable during any period of a monitoring system or device malfunction if demonstrated by the owner or operator of the source that the malfunction was unavoidable and is being repaired as expeditiously as practicable. This demonstration may include, but is not limited to, evidence that the device has been properly calibrated and maintained, adequate spare parts are on hand, and trained technicians are available to make repairs.

(Source: Added at 13 Ill. Reg. 2066, effective February 3, 1989)

Section 201.405 Excess Emission Reporting

Owners and operators of sources subject to the continuous monitoring requirements of this Subpart shall report the following information:

a) For periods of emissions in excess of any emission limitation adopted by the Board:

1) The starting date and time of the excess emissions;

b) Emissions of water and water vapor. Sections 212.122 and 212.123 shall not apply to emissions of water or water vapor from an emission source.

c) Adjusted standards. An emission source which has obtained an adjusted opacity standard pursuant to Section 212.126 shall be subject to that standard rather than the limitations of Section 212.122 or 212.123.

d) Compliance with the particulate regulations of this Part shall constitute a defense.

1) For all emission sources which are not subject to Chapters 111 or 112 of the Clean Air Act (42 U.S.C.A. 7401 et seq.) and Sections 212.201, 212.202, 212.203 or 212.204 but which are subject to Sections 212.122 or 212.123:

The opacity limitations of Sections 212.122 and 212.123 shall not apply if it is shown that the emission source was, at the time of such emission, in compliance with the applicable particulate emissions limitations of Subparts D-T of this Part.

2) For all emission sources which are not subject to Chapters 111 or 112 of the Clean Air Act but which are subject to Sections 212.201, 212.202, 212.203 or 212.204 and either Section 212.122 or 212.123:

A) An exceedance of the limitations of Section 212.122 or 212.123 shall constitute a violation of the applicable particulate limitations of Subparts D-T of this Part. It shall be a defense to a violation of the applicable particulate limitations if, during a subsequent performance test conducted within a reasonable time not to exceed 60 days, under the same operating conditions for the source and the control device(s), and in accordance with Method 5, 40 CFR 60, incorporated by reference in Section 212.113, the owner or operator shows that the source is in compliance with the particulate emission limitations.

B) It shall be a defense to an exceedance of the opacity limit if, during a subsequent performance test conducted within a reasonable time not to exceed 60 days, under the same operating conditions of the source and the control device(s), and in accordance with Method 5, 40 CFR 60, Appendix A, incorporated by reference in Section 212.113, the owner or operator shows that the source is in compliance with the allowable particulate emissions limitation while, simultaneously, having visible emissions equal to or greater than the opacity exceedance as originally observed.

(Source: Amended at 12 Ill. Reg. 12492, effective July 13, 1988)

Section 212.125 Determination of Violations

Violations of Sections 212.122 and 212.123 shall be determined:

a) By visual observations; or

b) By the use of a calibrated smoke evaluation device approved by the Agency as specified in Subpart J of 35 Ill. Adm. Code 201; or

c) By the use of a smoke monitor located in the stack and approved by the Agency as specified in Subpart J of 35 Ill. Adm. Code 201.

Section 212.126 Adjusted Opacity Standards Procedures

a) Pursuant to Section 28.1 of the Environmental Protection Act (Act) (Ill. Rev. Stat. 1987 ch. 111 1/2 pars. 1028.1), and in accordance with 35 Ill. Adm. Code 106 Subpart E, adjusted visible emissions standards for emission sources subject to Sections 212.201, 212.202, 212.203, or 212.204 and either Section 212.122 or 212.123 shall be granted by the Board to the extent consistent with federal law based upon a demonstration by such a source that the results of a performance test conducted pursuant to this Section, Section 212.110, and Methods 5 and 9 of 40 CFR 60, Appendix A, incorporated by reference in Section 212.113, show that the source meets the applicable particulate emission limitations at the same time that the visible emissions exceed the otherwise applicable standards of Sections 212.121-212.125. Such adjusted opacity limitations:

1) Shall be specified as a condition in operating permits issued pursuant to 35 Ill. Adm. Code 201;

2) Shall substitute for that limitation otherwise applicable;

3) Shall not allow an opacity greater than 60 percent at any time; and

4) Shall allow opacity for one six-minute averaging period in any 60 minute period to exceed the adjusted opacity standard.

b) For the purpose of establishing an adjusted opacity standard, any owner or operator of an emission source which meets the requirements of subsection (a), above, may request the Agency to determine the average opacity of the emissions from the emission source during any performance test(s) conducted pursuant to Section 212.110 and Methods 5 and 9 of 40 CFR 60, Appendix A, incorporated by reference in Section 212.113. The Agency shall refuse to accept the results of emissions tests if not conducted pursuant to this Section.

c) Any request for the determination of the average opacity of emissions shall be made in

writing, shall include the time and place of the performance test and test specifications and procedures, and shall be submitted to the Agency at least thirty days before the proposed test date.

d) The Agency will advise the owner or operator of an emission source which has requested an opacity determination of any deficiencies in the proposed test specifications and procedures as expeditiously as practicable but no later than 10 days prior to the proposed test date so as to minimize any disruption of the proposed testing schedule.

e) The owner or operator shall allow Agency personnel to be present during the performance test.

f) The method for determining an adjusted opacity standard is as follows:

   1) A minimum of 60 consecutive minutes of opacity readings obtained in accordance with USEPA Test Method 9, 40 CFR 60, Appendix A, incorporated by reference in Section 212.113, shall be taken during each sampling run. Therefore, for each performance test (which normally consists of three sampling runs), a total of three sets of opacity readings totaling three hours or more shall be obtained. Concurrently, the particulate emissions data from three sampling runs obtained in accordance with USEPA Test Method 5, 40 CFR 60, Appendix A, incorporated by reference in Section 212.113, shall also be obtained.

   2) After the results of the performance tests are received from the emission source, the status of compliance with the applicable particulate emissions limitation shall be determined by the Agency. In accordance with USEPA Test Method 5, 40 CFR 60, Appendix A, incorporated by reference in Section 212.113, the average of the results of the three sampling runs must be less than the allowable particulate emission rate in order for the source to be considered in compliance. If compliance is demonstrated, then only those test runs with results which are less than the allowable particulate emission rate shall be considered as acceptable test runs for the purpose of establishing an adjusted opacity standard.

   3) The opacity readings for each acceptable sampling run shall be divided into sets of 24 consecutive readings. The 6-minute average opacity for each set shall be determined by dividing the sum of the 24 readings within each set by 24.

   4) The second highest six-minute average opacity obtained in (f)(3) above shall be selected as the adjusted opacity standard.

g) The owner or operator shall submit a written report of the results of the performance test to the Agency at least 30 days prior to filing a petition for an adjusted standard with the Board.

h) If, upon review of such owner's or operator's written report of the results of the performance test(s), the Agency determines that the emission source is in compliance with all applicable emission limitations for which the performance tests were conducted, but fails to comply with the requirements of Section 212.122 or 212.123, the Agency shall notify the owner or operator as expeditiously as practicable, but no later than 20 days after receiving the written report of any deficiencies in the results of the performance tests.

i) The owner or operator may petition the Board for an adjusted visible emission standard pursuant to 35 Ill. Adm. Code 106 Subpart E. In addition to the requirements of 35 Ill. Adm. Code 106 Subpart E the petition shall include the following information:

   1) A description of the business or activity of the petitioner, including its location and relevant pollution control equipment;

   2) The quantity and type of materials discharged from the source or control equipment for which the adjusted standard is requested;

   3) A copy of any correspondence between the petitioner and the Agency regarding the performance test(s) which form the basis of the adjusted standard request;

   4) A copy of the written report submitted to the Agency pursuant to subsection (g) above;

   5) A statement that the performance test(s) were conducted in accordance with this Section and the conditions and procedures accepted by the Agency pursuant to Section 212.110;

   6) A statement regarding the specific limitation requested; and

   7) A statement as to whether the Agency has sent notice of deficiencies in the results of the performance test pursuant to subsection (h) above and a copy of said notice.

j) In order to qualify for an adjusted standard the owner or operator must justify as follows:

   1) That the performance test(s) were conducted in accordance with USEPA Test Methods 5 and 9, 40 CFR 60, Appendix A, incorporated by reference in Section 212.113, and the conditions and procedures accepted by the Agency pursuant to Section 212.110;

   2) That the emission source and associated air pollution control equipment were operated and maintained in a manner so as

to minimize the opacity of the emissions during the performance test(s); and

3) That the proposed adjusted opacity standard was determined in accordance with subsection (f).

k) Nothing in this Section shall prevent any person from initiating or participating in a rulemaking, variance, or permit appeal proceeding before the Board.

(Source: Added at 12 Ill. Reg. 12492, effective July 13, 1988)

SUBPART D: PARTICULATE MATTER EMISSIONS FROM INCINERATORS

Section 212.181 Limitations for Incinerators

a) No person shall cause or allow the emission of particulate matter into the atmosphere from any incinerator burning more than 27.2 Mg (60,000 lbs) of refuse per hour to exceed 115 mg (0.05 gr/scf) of effluent gases corrected to 12 percent carbon dioxide.

b) No person shall cause or allow the emission of particulate matter into the atmosphere from any incinerator burning more than 0.907 Mg (2000 lbs) but less than 27.2 Mg (60,000 lbs) of refuse per hour to exceed 183 mg (0.08 gr/scf) of effluent gases corrected to 12 percent carbon dioxide.

c) No person shall cause or allow the emission of particulate matter into the atmosphere from all other existing incinerators to exceed 458 mg (0.2 gr/scf) of effluent gases corrected to 12 percent carbon dioxide.

d) No person shall cause or allow the emission of particulate matter into the atmosphere from all other new incinerators to exceed 229 mg (0.1 gr/scf) of effluent gases corrected to 12 percent carbon dioxide.

(Source: Amended at 4 Ill. Reg. 514, effective June 4, 1980)

Section 212.182 Aqueous Waste Incinerators

Section 212.181(d) shall not apply to aqueous waste incinerators which, when corrected to 50 percent excess air for combined fuel and charge incineration, produce stack gas containing carbon dioxide dry-basis volume concentrations of less than 1.2 percent from the charge alone if all the following conditions are met:

a) The emission of particulate matter into the atmosphere from any such new or existing incinerator does not exceed 229 mg (0.1 gr/scf), dry basis, when corrected to 50 percent excess air for combined fuel and charge incineration.

b) The waste charge to the incinerator does not exceed 907 kg (2000 lbs) per hour.

(Source: Amended at 4 Ill. Reg. 514, effective June 4, 1980)

Section 212.183 Certain Wood Waste Incinerators

Exception: Section 212.181(a), (b) and (d) shall not apply to incinerators which burn wood wastes exclusively, if all the following conditions are met:

a) The emission of particulate matter from such incinerator does not exceed 458 mg (0.2 gr/scf) of effluent gases corrected to 12 pecent carbon dioxide; and,

b) The location of such incinerator is not in a restricted area, and is more than 305 m (1000 ft) from residential or other populated areas; and,

c) When it can be affirmatively demonstrated that no economically reasonable alternative method of disposal is available.

(Source: Amended at 4 Ill. Reg. 514, effective June 4, 1980)

Section 212.184 Explosive Waste Incinerators

a) Section 212.181 shall not apply to certain existing small explosive waste incinerators if all the following conditions are met:

1) The incinerator burns explosives or explosive contaminated waste exclusively;

2) The incinerator burns 227 kg (500 lbs) of waste per hour or less;

3) All incinerators on the same site operate a total of six hours or less in any day;

4) The incinerator was in existence prior to December 6, 1976, and is located in Williamson County in Section 3, Township 9 South, Range 2 East of the Third Principal Meridian.

b) No person shall cause or allow the emission of particulate matter into the atmosphere from any such existing small explosive waste incinerator to exceed 7140 mg/kg (50.0 gr/lb) of combined waste and auxiliary fuel burned.

(Source: Amended at 4 Ill. Reg. 514, effective June 4, 1980)

Section 212.185 Continuous Automatic Stoking Animal Pathological Waste Incinerators

a) For purposes of this Section, the following definitions apply: "Animal Pathological Waste" means waste composed of whole or parts of animal carcasses and also noncarcass materials such as plastic, paper wrapping and animal collars. Noncarcass materials shall not exceed ten percent by weight of the total weight of the carcass and noncarcass